UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/801,896	03/16/2004	Rajesh K. Balan	YOR920040010US1	3383

48813   7590   04/18/2008
LAW OFFICE OF IDO TUCHMAN (YOR)
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EXAMINER
CLOUD, JOIYA M

ART UNIT	PAPER NUMBER
2144	

NOTIFICATION DATE	DELIVERY MODE
04/18/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ITUCHMAN@TUCHMANLAW.COM

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>07 January 2008</u>.
2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-32</u> is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) <u>1-32</u> is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on <u>03/16/2004</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All   b)☐ Some * c)☐ None of:
      1.☐ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)
1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application
6)☐ Other: _____.

U.S. Patent and Trademark Office
PTOL-326 (Rev. 08-06)   Office Action Summary   Part of Paper No./Mail Date 20080413

DETAILED ACTION

1.   This action is responsive to the application filed on 01/07/2008. Claims 1-32 are

pending.

Claim Rejections - 35 USC § 102

2.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3.   Claims 1-32 are rejected under 35 U.S.C. 102(b) as being anticipated by

Catchpole et al. **(U.S. Publication No. 2003/0005028 A1, hereinafter Dritschler).**

As per claim 1, Dritschler teaches method for executing a network-based

distributed application, the method comprising: executing application instances of the

distributed application in application containers **(Abstract, paragraphs [0017] and**

[0030], where the containers are the server address spaces); calculating quality of

service metrics for each application instance **(paragraph [0018], lines 9-15, paragraph**

[0030], [0034] and [0038],where quality of service metrics are the performance

criteria and goals); and distributing application workload among the application instances using a decentralized workload management layer based on the quality of service metrics **(Abstract, paragraph [0028] and [0029], Dritschler teaches)**.

As per claim 2, Dritschler teaches the method further comprising associating application containers with autonomous workload management elements, the workload management elements forming the workload management layer **(paragraph [0028])**.

As per claim 3, Dritschler teaches the method further comprising coordinating the application instances through a coordination mechanism coupled to the workload management layer **(paragraph [0029])**.

As per claim 4, Dritschler teaches the method wherein distributing application workload among the application instances further comprises reducing workload assigned to an application container when the quality of service metrics reach an overload threshold value **(paragraphs [0037]-[0038])**.

As per claim 5, Dritschler teaches the method wherein reducing workload assigned to the application container further comprises: examining an encoding of work unit groups provided by each application instance **(paragraph [0032])**; splitting a currently assigned work unit group into smaller work unit groups **(paragraph [0037]-[0038] and [0043])**; assigning at least one of the smaller work unit groups to other application containers **(paragraph [0037]-[0038])**; and utilizing a coordination mechanism to update changes in workload assignments to the other application containers

As per claim 6, Dritschler teaches the method wherein distributing application workload among the application instances further comprises increasing workload assigned to the application container when the quality of service metrics reach an under-load threshold value **(paragraph [0040]-[0042], and [0044]).**

As per claim 7, Dritschler teaches the method wherein increasing workload assigned to the application container further comprises: examining an encoding of work unit groups provided by each application instance **(paragraph [0038])**; combining at least two currently assigned work unit groups into a smaller work unit group **(paragraph [0038])**; assigning the smaller work unit group to the application container **(paragraph [0038])**; and utilizing a coordination mechanism to update changes in workload assignments to the other application containers **(paragraph [0038]).**

As per claim 8, Dritschler teaches the method further comprising dividing workload assigned to a single application instance to at least two application instances if a quality of service metric reaches an overload threshold **(paragraph [0044]).**

As per claim 9, Dritschler teaches the method further comprising: dividing a total workload performed by the distributed application among the application instances **(paragraph [0043]-[0045])**; assigning each of the application instances a fractional workload **(paragraph [0043]-[0045])**; and filtering client requests at the application containers based on the fractional workload assigned to the application instances **(paragraph [0043]-[0045]).**

As per claim 10, Dritschler teaches the method further comprising migrating a client from a first application container to a second application container if workload

from the client is not assigned to the application instance executing at the first application

container **(paragraph [0028])**.

As per claim 11, Dritschler teaches the method further comprising labeling client

requests such that application containers can determine if the requests belong to the

fractional workload assigned to the application instances **(paragraphs [0028] and**

[0032]).

As per claim 12, Dritschler teaches the method further comprising receiving the

application instances from application loaders.

As per claim 13-14, claims 13-14 are substantially the saem as claims 1-2, but in

system form rather than method form. Therefore, the rejection for claims 1-2 applies

equally as well to claims 13-14.

As per claims 15-16, claims 15-16 are substantially the same as claims 7-8, but in

system form rather than method form. Therefore the rejection for claims 7-8 applies

equally as well to claims 15-16.

As per claims 17 and 18, Dritschler teaches the system wherein each application

container is further configured to pass inbound packets to executing application instances

when the inbound packets belong to the its assigned workload, and to pass inbound

packets to its associated workload management element when the inbound packets do not

belong to its assigned workload and further comprising workload tags coupled to data

packets of application containers, the workload tags configured to allow application

containers to identify whether the inbound packets belong to its assigned workload
(paragraphs [0028] and [0029]).

As per claim 19, Dritschler teaches the system further comprising a coordination
mechanismconfigured to workload management elements to locate each other and
determine the current work assignments of each application container **(paragraph
[0028])**.

As per claim 20, Dritschler teaches the system further comprising an application
loader configured to provide executable application code to application containers
(paragraph [0018]).

As per claims 21-32, claims 21-32 are substantially the same as claims 1-12, but
in computer program product form rather than method form. Therefore the rejection for
claims 1-12 applies equally as well to claims 21-32.

Response to Arguments

A)   Dritschler fails to teach distributing application workload among instances
using a decentralized workload management layer.

As to the above argument, Examiner respectfully disagrees. Examiner submits
that Dritschler clearly teaches a decentralized workload management layer, where
paragraph [0032] specifically states "a maximum number of server instances 134 to be
started by the workload manager … and distributed over multiple work queues created
for the application environment 111". Furthermore, Examiner has interpreted the entire

process as described in Dritschler as the workload management (see paragraph [0032])

and thus within that workload management is the *use of* a decentralized workload

management layer that distributes to "a pool of servers to service requests issued by

application programs and inserted in work queues." (paragraph [0017]). As the claim

only requires distributing the workload *using* a decentralized workload management

layer, it is clear that according to Applicant's given definition for "decentralized," to

distribute the administrative powers or functions of (a central authority) over a less

concentrated area or to disperse (something) to a centralized area of concentration,

Dritschler clearly teaches dispersing the workload of requests to a pool of servers. See

also paragraphs [0028] and [0029], specifically where the workload manager 102 initially

starts one or more server instances 134 of a plurality of possible server instances to

service work requests.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of

time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the

advisory action. In no event, however, will the statutory period for reply expire later than

SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Joiya Cloud whose telephone number is 571-270-

1146. The examiner can normally be reached Monday to Friday from on 7:30am-

5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, William Vaughn can be reached on 571-272-3922. The fax phone

number for the organization where this application or proceeding is assigned is 571-

273-3922. Information regarding the status of an application may be obtained from

the Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR

only. For more information about the PAIR system, see http://pair-direct.uspto.gov.

Should you have questions on access to the Private PAIR system, contact the

Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JMC

/William C. Vaughn, Jr./

Supervisory Patent Examiner, Art Unit 2144